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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of)
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Hideki KAWAHARA et al.)
)
Serial No. 09/786,642) Examiner: M. Lewis
)
Filed: March 7, 2001) Group Art Unit: 2655
)
For: METHOD OF EXTRACTING) November 11, 2004
SOUND-SOURCE INFORMATION)

RESPONSE TO OFFICE ACTION OF AUGUST 12, 2004

Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

The office action dated August 12, 2004 rejects the claims under 35 U.S.C. §112, first paragraph, as failing to comply with the enablement requirement. Reconsideration of the claims is requested. One skilled in the art is enabled to make and use the invention as described in the specification.

In the inventor's view, there seems to be a misunderstanding in the Office Action which asserts that the derivative of frequency with respect to frequency is zero since frequency is not described as a variable, i.e., that the output of a filter is NOT differentiated with respect to the frequency. Such assertions are based upon a single filter and ignore there are many filters to

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assert that this single frequency is not differentiated with respect to frequency since the frequency is not variable. However, please carefully read page 10, lines 11-17 of the description cited below which explains a method whereby instantaneous frequency of filter output can be differentiated with respect to frequency:

"In the instantaneous-frequency frequency differentiation circuit 3, the instantaneous frequency of output of each filter is calculated; and for each filter, partial differentiation of the instantaneous frequency with respect to frequency is performed on the basis of the instantaneous frequencies of outputs of adjacent filters and the center frequencies of the respective filters."

In concrete terms, partial differentiation of instantaneous frequency with respect to frequency can be mathematically obtained by dividing instantaneous frequency difference between adjacent filters by center frequency difference between each of the filters. That is, in an instantaneous-frequency frequency differentiation circuit 3, instantaneous frequency of each filter output is calculated. Therefore, the instantaneous frequency of each filter is a function of filter parameter (and time parameter, needless to say). The filter parameter here is, for example, a center frequency and a bandwidth of the filter. (Although the parameter includes various elements such as a parameter of the filter profile, we do not take account of it here since it is not important.) That means instantaneous frequencies of outputs of respective filters are functions of center frequencies of respective filters. Therefore, differentiation of instantaneous frequency of a filter output with respect to frequency can be obtained by investigating a relation between a filter center frequency and an instantaneous frequency of the filter output. (The explanation was made here with the simplest method in numerical differentiation i.e. Euler's rule. Further accurate

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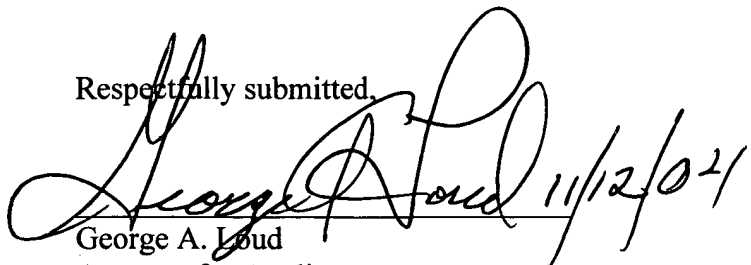
estimation is possible by use of further sophisticated methods, However, there are essentially no differences among these methods.)

By such rejection made in paragraph 3 of the office action, the Examiner might have contended that the description of the present invention is unclear. However, the description is clear enough for one skilled in the art to understand the present invention. The potential unclear point in the description, if any, is in a wording "the center frequency of filter" since we did not clarify that the wording is equivalent to "frequency" in a wording of "the differentiation of the instantaneous frequency of the output of the filter". However, with the understanding of this point, we submit that the description "partial differentiation of the instantaneous frequency with respect to frequency" made in such as page 10, lines 14-15 and page 15, lines 16-17 is clear enough for one skilled in the art to understand the present invention.

In view of the above, it is clear that the claims are fully enabling to one skilled in the art and that the rejection under 35 U.S.C. §112 must be withdrawn.

The application is now believed to be in condition for allowance and such favorable action is requested.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "George A. Loud", is written over a horizontal line. To the right of the signature, the date "11/12/02" is handwritten.

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